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ABSTRACT OF THE DISCLOSURE**Level Measuring Device Operating with Microwaves**

The microwave measuring device, which preferably operates with microwave
5 bursts, serves to produce a measured value (X_H) representing the level of the
contents of a vessel (200). It comprises a transceiver unit (2) for generating a
level-dependent intermediate-frequency signal (ZF) by means of a transmit
signal (S_2) and a receive signal (E_2), and a transducer element (1) which in
operation couples waves (S_1), particularly pulsed waves, into the vessel under
10 control of the transmit signal (S_2) and converts echo waves (E_1) reflected from
the contents (201) of the vessel into the receive signal (E_2). The intermediate-
frequency signal (ZF) is fed to a control unit (3) of the level measuring device
where it is stored in the form of a sampling sequence (AF) in a volatile data
memory (33). In this manner, both amplitude information and phase
15 information is available for the level measurement. The device is thus capable
of measuring level with high accuracy, particularly accurately to a millimeter,
and very fast.